WE CLAIM:

1. A process for producing power, carbon dioxide and hydrocarbons having an average H:C atom ratio of 2 or greater from carbon-bearing feedstocks having an H:C atom ratio of less than 2, comprising the steps of:

a) reacting a carbon-bearing feedstock with an oxidizing gas and steam in a partial oxidation reactor to produce a mixture of gases containing hydrogen, carbon monoxide and carbon dioxide having a molar ratio of H_2:CO of greater than 0.6;

b) reacting the mixture of gases containing hydrogen and carbon monoxide in a Fischer-Tropsch synthesis reactor containing a catalyst which catalyzes both hydrocarbon-forming reactions and the water gas shift reaction;

c) condensing the product hydrocarbons from unreacted hydrogen, carbon monoxide and other gases (tail gases);

d) separating the product hydrocarbons into naphtha, diesel and wax fractions;

e) removing at least a portion of carbon dioxide from the tail gases; and

f) producing steam from heat recovered from at least said partial oxidation reactor and said Fischer-Tropsch reactor, directing the steam to the steam turbine of a combined cycle plant, and directing at least the tail gases to the gas turbine of said combined cycle plant to produce power, wherein the process is operated to selectively maximize the production of at least one of the products power, Fischer-Tropsch hydrocarbons and carbon dioxide.

2. The process of claim 1 wherein natural gas is introduced to the partial oxidation reactor to supplement the feedstock.

3. The process of claim 1 wherein natural gas is introduced to the gas turbine of said combined cycle plant to increase power production.

3. The process of claim 1 wherein acid gases are removed from the products of the partial oxidation reactor before they are passed to said Fischer-Tropsch reactor.

4. The process of claim 1 wherein hydrogen is separated from the tail gases and directed to at least one of:

a) the Fischer-Tropsch reactor, and

b) a hydrocracking reactor where wax products of the process are hydrocracked to form naphtha and diesel fractions.

5. The process of claim 1 wherein at least a portion of the product hydrocarbons are directed to the gas turbine of said combined cycle plant to increase the production of power.

6. The process of claim 1 wherein said Fischer-Tropsch reactor is a slurry reactor.

7. The process of claim 1 wherein said Fischer-Tropsch catalyst is an iron catalyst.

8. The process of claim 7 wherein said catalyst is an iron-based catalyst.

9. The process of claim 8 wherein said catalyst is an unsupported precipitated iron catalyst promoted with copper and potassium.

10. The process of claim 1, wherein the carbon-bearing feedstock is selected from the group consisting of heavy residual oil from an oil refinery, petroleum coke, coal, aqueous emulsions of bitumen, biomass, rubber tires and mixtures thereof.

11. The process of claim 1 wherein the oxidizing gas is oxygen of a purity greater than about 90 volume percent.

12. The process of claim 1, wherein the oxidizing gas is a mixture of gases containing greater than about 20 volume percent oxygen.

13. The process of claim 1, wherein water is removed from the mixture of gases from step (a) before they are reacted in step (b).

14. The process of claim 1 wherein said Fischer-Tropsch reactor is a slurry reactor.

15. The process of claim 1 wherein the production of Fischer-Tropsch hydrocarbons is maximized by separating hydrogen from the tail gases, recycling a portion of the hydrogen to the Fischer-Tropsch reactor, utilizing the remainder of said hydrogen to hydrocrack wax products in a hydrocracking reactor, and directing all of said mixture of hydrogen and carbon monoxide to said Fischer-Tropsch synthesis reactor.

16. The process of claim 1 wherein power production is maximized while producing Fischer-Tropsch hydrocarbons by directing all tail gases to said gas turbine and directing at

least the wax and naphtha fractions of said hydrocarbons to said gas turbine.

17. The process of claim 1 wherein power production is maximized while producing Fischer-Tropsch hydrocarbons by introducing natural gas to the gas turbine of said combined cycle plant.

18. The process of claim 1 wherein the production and separation of carbon dioxide are maximized by increasing the water content of the synthesis gas introduced to said Fischer-Tropsch reactor.

19. The process of claim 1 wherein the production and separation of carbon dioxide are maximized by removing and recovering substantially all carbon dioxide from the tail gases of the hydrocarbon recovery section prior to directing said tail gases to said gas turbine.

20. The process of claim 1 wherein the production and separation of carbon dioxide are maximized by recycling up to about 90 percent of the Fischer-Tropsch tail gases to the inlet of said Fischer-Tropsch reactor.

21. The process of claim 1 wherein said Fischer-Tropsch reactor is a slurry reactor.

22. Apparatus for producing power, carbon dioxide and hydrocarbons having an average H:C atom ratio of 2 or greater from carbon-bearing feedstocks having an H:C ratio of less than 2, comprising:

a) a partial oxidation reactor for reacting a carbon-bearing feedstock with an oxidizing gas and steam to produce a mixture of gases containing hydrogen, carbon monoxide and carbon dioxide, having a molar ratio of H_2:CO of greater than 0.6;

b) a Fischer-Tropsch synthesis reactor for reacting the mixture of gases containing hydrogen and carbon monoxide, said reactor further containing a catalyst which catalyzes both hydrocarbon-forming reactions and the water gas shift reaction;

c) means for transporting the gases from the partial oxidation reactor to the Fischer-Tropsch synthesis reactor;

d) means for condensing the product hydrocarbons from the Fischer-Tropsch synthesis reactor from unreacted hydrogen, carbon monoxide and other gases (tail gases);

e) means for separating the product hydrocarbons into suitable fractions;

f) means for separating at least one of hydrogen and carbon dioxide from the tail gases;

g) means for recycling at least a portion of the separated hydrogen to the inlet of the partial oxidation reactor;

h) means for recovering heat from at least the partial oxidation and Fischer-Tropsch reactors and generating steam; and

i) a combined cycle plant comprising gas and steam turbines for the production of power from products generated by the Fischer-Tropsch reactor and the steam generated in (h).

23. The apparatus of claim 22, further comprising a hydrocracking reactor and means for transporting a wax fraction of the hydrocarbon products and a portion of the

hydrogen separated from the tail gases to said hydrocracking reactor to produce additional hydrocarbon fractions.

24. The apparatus of claim 22 wherein said Fischer-Tropsch synthesis reactor is a slurry reactor.

25. The apparatus of claim 24 wherein said slurry reactor is steam cooled.

26. The apparatus of claim 22 wherein said catalyst comprises iron.

27. The apparatus of claim 26 wherein said catalyst is an iron-based catalyst.

28. The apparatus of claim 27 wherein said catalyst is an unsupported precipitated iron catalyst promoted with copper and potassium.

29. The apparatus of claim 22, further comprising a source of natural gas and means for introducing the natural gas into at least one of the partial oxidation reactor and the gas turbine of the combined cycle plant.

30. The apparatus of claim 22, further comprising means for separating acid gases from the products of said partial oxidation reactor.